Router HQ

hostname HQ

ipv6 unicast-routing

interface GigabitEthernet0/1

 ipv6 address 2001:DB8:ACAD::1/64

 ip address 192.168.0.1 255.255.255.128

 ipv6 address FE80::1 link-local

interface Serial0/0/0

 ipv6 address 2001:DB8:ACAD:20::2/64

 ip address 10.1.1.2 255.255.255.252

 clock rate 800000

 no shutdown

interface Serial0/0/1

 ipv6 address 2001:DB8:ACAD:2::3/64

 ip address 192.168.0.253 255.255.255.252

 no shutdown

ip route 172.16.3.0 255.255.255.0 10.1.1.1

ip route 192.168.1.0 255.255.255.0 192.16.0.254

ipv6 route 2001:DB8:ACAD:1::/64 2001:DB8:ACAD:2::2

ipv6 route 2001:DB8:ACAD:30::/64 2001:DB8:ACAD::20:1

Router ISP

hostname ISP

ipv6 unicast-routing

interface GigabitEthernet0/0

 ipv6 address 2001:DB8:ACAD:30::1/64

 ip address 172.16.3.11 255.255.255.0

 ipv6 address FE80::1 link-local

 no shutdown

interface Serial0/0/0

 ipv6 address 2001:DB8::ACAD:20:1/64

 ip address 10.1.1.1 255.255.255.252

 no shutdown

ip route 192.168.1.0 255.255.255.0 10.1.1.2

ipv6 route 2001:DB8:ACAD::/62 2001:DB8:ACAD:20::2

Router BRANCH

hostname BRANCH

ipv6 unicast-routing

interface GigabitEthernet0/1

 ipv6 address 2001:DB8:ACAD:1::1/64

 ip address 192.168.1.1 255.255.255.0

 ipv6 address FE80::1 link-local

 no shutdown

interface Serial0/0/0

 ipv6 address 2001:DB8:ACAD:2::2/64

 clock rate 128000

 ip address 192.168.0.249 255.255.255.252

 clock rate 128000

 no shutdown

ip route 0.0.0.0 0.0.0.0 10.1.1.2

ipv6 route ::/0 2001:DB8:ACAD::1